



# AMERICAN BEE JOURNAL

THOMAS G. NEWMAN,  
EDITOR.

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**The Convention Report.**—This week we give up the entire space of the BEE JOURNAL to the report of the convention at Indianapolis, believing it to be the most acceptable news to offer our readers. We will give a double dose of Queries next week in order to catch up.

**Mr. D. W. Fletcher**, known to many as a correspondent for the BEE JOURNAL, died at Lansingville, N. Y., on Sept. 6, 1886. He was between 39 and 40 years of age. For sometime his health has been failing, but last June he fell from a wagon which caused internal injuries, and at last proved fatal. At an early age he became interested in Natural History, and the result was that he kept bees, and studied the art so as to excel. His honey in New York brought the highest price, especially for the holiday trade. He had a large correspondence with apiarists all over the country, whose likenesses decorated his room, and he regarded them as personal friends. He was fond of music, and played several instruments.

**Mr. H. H. Flick**, of Lavansville, Pa., well-known to our readers for the past 25 years as an able apiarist, has been nominated for the State Senate in the 36th Senatorial District of Pennsylvania.

**Another Bee-Master Gone.**—We regret to announce that Mr. James Anderson, of Dalry, Scotland, died on Sept. 23, 1886. Mr. Anderson was one of the most advanced bee-keepers of Scotland, and in 1882 he visited America, remaining here about a year, visiting some of our best apiarists, and studying our system of keeping bees. He twice visited the office of the BEE JOURNAL, and was designated by some as the "Bee-King from Scotland." We first met him at the "Perth Bee and Honey Show" in Scotland in 1879, and enjoyed his company with other noted Scotch apiarists. He died of congestion of the lungs after three weeks of illness.

**Honey Used in Manufactures.**—The possibilities in the line of honey consumption are enormous. It can be used to advantage in many manufactures, and Mr. Arthur Todd, of Philadelphia, is making a point in that line, which we are glad to see. Here is his own words in a letter just received:

While you were at the convention, Mr. Newman, I was busy at the Burlington County Fair (New Jersey), where I made a display of honey, bees, aparian tools, and honey manufactures. I brought strongly before the notice of the managers the necessity to encourage the use of honey in manufactures, such as preserving fruits, candies, cakes, curing hams, vinegar, etc. The result was, that the judges awarded me a special medal for *honey and honey manufactures*.

As far as I am aware this is the first public recognition of the successful employment of honey in various industries.

When I tell you that the cash returns for goods made with honey sold in the past three months by me, amount up into the *thousands* of dollars, perhaps some of the folks that see no other outlet for honey but to eat with buckwheat cakes, will think differently.

If we but mention some of the uses for honey, we fancy that many will be surprised at the possibilities in extending honey consumption. It is used in the manufacture of cakes, pastry, mead, mead, soda water, confectionery, jellies, jams, liquorice, table syrups, egg foam, vinegar, wines, liquors, preserving fruit of all kinds in the natural state, medical syrups, and medical preparations of various kinds, ointments, salves, and in making tobacco, ale, beer, and printers' rollers; also in curing hams and meats of all kinds, besides being eaten for the cure of asthma, consumption, etc., and for food and medicine.

Mr. Todd is entitled to a vote of thanks for his endeavors to interest manufacturers in the consumption of honey. Let the good work go on! Let us labor to CREATE A DEMAND for it in every possible way.

**Experiments.**—Mr. J. W. Tefft, of Syracuse, N. Y., in the *News*, gives the following particulars concerning some experiments made during the past season:

He selected one colony in the spring to experiment with, and naturally gave it the most attention; it contained eight 10x15 frames. During the summer he has taken 26 frames of brood and honey from this colony, and formed 5 colonies of 9 frames each, besides taking 106 finished one-pound sections, and 30 pounds of honey, in frames. The 6 will go into winter quarters with 9 frames each, averaging 45 pounds of honey to the colony. The queen was given a frame of last year's comb, selected for its perfection. At 6 a.m. and at 2 p.m. of the same day, upon examination, was found she had deposited an egg in every cell on both sides, and allowing 24 cells to the square inch, she laid the remarkable number of 7,200 eggs. With another queen he has done equally as well, excepting the honey record.

**Paste for Labels on Pails, Jars, etc.**—A correspondent asks for a good recipe for paste to hold honey-labels on tin or earthenware. Here is one: "Mix thin flour paste in the usual way. When nearly cooked, add about one-eighth as much of cheap Porto Rico molasses, and cook for ten minutes longer, stirring continually to prevent burning. If too thick to work well, it may be diluted with warm water, thoroughly mixed before using."

**Premium Worth Having.**—The New York *World* and the AMERICAN BEE JOURNAL (both weekly) will be sent for one year to any address in North America for \$1.90. And in addition PRESENT to every such CLUB SUBSCRIBER a "History of the United States," containing 320 pages and 22 engravings, bound in leather and gilt.

This "History" will be sent *free* by express at the subscriber's expense; or will be mailed for 10 cents extra to any place in the United States or Canada.

It is arranged chronologically by years, from 1492 to 1885. Every event is narrated in the order of its date. These are not confined, as in other works, to political matters, but embrace every branch of human action. It describes under its proper date all important patents; all discoveries in science and the useful arts; fires, floods, hail-storms, tornadoes, cyclones, epidemics; accidents and disasters on sea and land; labor troubles, strikes and lockouts, and hundreds of other matters never mentioned by historians. Besides being a history in the ordinary sense, it is a condensed news-paper file for four hundred years.

This premium is worth the whole of the money sent for both periodicals, and will induce thousands to subscribe, and thus get two unrivaled weeklies for absolutely nothing. Now is THE TIME TO GET UP CLUBS! The papers and book can be all sent to one address, or all to different addresses.

This offer is good for 40 days only, and hence no time should be lost! Send at once. \$2 will pay for the book and both weeklies for one year—subscriptions to begin at any time.

**Detecting Glucose.**—S. Waters & Son, of McGregor, Iowa, asks this question: "By what test can we detect the adulteration of honey with glucose?" Here is a test which we published over a year ago:

A cheap and easy way to test the presence of the poorer grades of glucose in honey is to put some of it into a cup of tea made strong. If it is heavily adulterated with the poisonous compound found in glucose, it will turn black almost like ink. Another test is to pour alcohol and this poisonous compound together. Pure honey and pure alcohol will unite, but pure alcohol and this poisonous compound will separate like oil and water.

As honey is so cheap it will not pay to adulterate it now, and hence there will be nothing offered for sale but pure honey, so long as there is no lucrative temptation. They also ask if honey put up in well-corked bottles will candy. Of course it will. In time, it will even candy in the comb.

**The American Agriculturist** of New York (\$1.50 a year) issues another in the series of engravings illustrating the "Homes of our Farmer Presidents," 16x18 inches in size, and presented to all subscribers for 1887. All new names for 1887, which are immediately received are entitled to all of the engravings for next year and those issued this year, also the *American Agriculturist* for the balance of this year. We will club the *American Agriculturist* with the AMERICAN BEE JOURNAL for \$2 per year. Every person who immediately subscribes to receive the engravings free for next year and this year also.

## North American Bee-Keepers' Society.

## SECOND DAY.—WEDNESDAY.

The convention was called to order at 10 a.m., President Cutting in the chair. The meeting was then adjourned, and Dr. Miller, President of the Northwestern Bee-Keepers' Society, then called that society to order. It was voted that the roll call be dispensed with and that the secretary be instructed to cast one ballot for the re-election of the present officers, which was done. The society then adjourned to meet in the fall (exact date to be decided upon by the executive committee) of 1887, in Chicago, Ills.

The President of the Indiana State Society then called that society to order, and officers were elected as follows: President, Frank L. Dougherty, Indianapolis, Ind.; Secretary, Mrs. Cassandra Robbins, Indianapolis, Ind.; Treasurer, Mrs. Stout. The time of meeting is to be decided in the future. The society then adjourned, and President Cutting then called to order the North American Society, and an essay was read by Mr. C. P. Dadant, entitled,

## RENDERING OF COMBS INTO WAX.

The rendering of comb into beeswax can be effected by artificial heat, or by the sun's rays. The heating on stoves or by steam is the most usual way, but many inexperienced persons spoil their wax either by melting it without water, or by overboiling, or by using dirty iron kettles. When comb is melted over a stove, it is not absolutely necessary to have an apparatus expressly made for the purpose. Any ordinary boiler will answer. A great deal of water should be used, and a moderate heat applied. When the wax is thoroughly melted, it can be dipped off the top, by using a piece of wire-cloth shaped like a dipper, hung in the kettle, to prevent the coarsest impurities from being dipped out. We have never seen any old combs, no matter how old, that did not make nice yellow wax when treated in this manner, or by the use of a wax-extractor. As a matter of course a good wax-extractor, if properly used, will give cleaner wax at the first melting.

If steam is used to melt comb, it should not be turned directly on the comb, but into the water below it, the steam often damaging the wax, and making it grainy and green looking. This same unpleasant result is sometimes attained by overboiling.

If some wax remains in the dregs, it is not advisable to throw away these residues. We have never yet seen any process that separated them so completely that they could be called worthless. Wax-bleachers usually press the wax out of them in a small press while hot. But a cheaper way, on a small scale, is to preserve them, or rather the best of them in a box, exposed to the weather, until more comb has to be melted, when they can be melted again with it. The exposure to the weather dissolves the

foreign substances, but not the wax, which, to all appearances, is indestructible.

Cappings of honey are melted in the same manner as old combs. It is well, however, to work them, first, in warm water to separate the honey that is left. This sweetened water can be used to advantage in cider or wine making, and for vinegar. Honey-vinegar is the very best that is made.

We have many times heard it said that it did not pay to melt old combs, but this is a mistake. It is not advisable to melt them with nice new comb, but any apiarist who will try rational methods, can find a profit in melting the very oldest and dirtiest combs that can be found.

The heat of the sun, in rendering comb, makes the finest beeswax, as it not only melts it, but partly bleaches it, and we have to thank our Italian brothers for the first idea of this, as well as for the invention of the extractor. Thus far, however, little use has been made of this discovery, but the time is not far distant when the solar extractors will be as plentifully found as steam or stove extractors. This method will have the advantage of giving clean wax at the first melting, without any danger of spoiling it.

After the reading of Mr. Dadant's essay, the subject of which it treated was discussed as follows:

O. O. Poppleton said: The solar wax-extractor is my "baby." About ten years ago I was experimenting in wintering bees under glass, and the heat melted some wax; from this hint I made the solar wax-extractor. The melted wax running from a solar wax-extractor ought not to stand in the shade, but in the sun where it will remain melted for hours, and allow the impurities to settle, when the melted wax may be dipped off the top with a flat dipper. The heat from the sun will not injure the wax, but it gives the honey that settles at the bottom a taste or flavor of pollen. Solar wax-extractors ought not to be too large, they should be small enough so that all the combs or cappings put into them will be rendered in one day. It is the best kind of wax-extractor. I once had 500 old drone-combs, each of which were about a foot square; in rendering them I secured about one pound of wax to five combs.

C. P. Dadant—We allow our cappings to drain a long time, sometimes three or four weeks, the upper half of them is taken off, and the lower half of two "batches" is then put together.

A. I. Root—Those who have small lots of wax to render can place the cappings in a sieve, when the honey can drain out into a dish-pan into which the sieve is placed. After the honey has drained out, the pan and all can be placed in an oven and the wax melted.

Dr. Miller—I have an old dripping-pan with one corner broken out. This can be used as a solar wax-extractor, and when the weather becomes too cool for this, the pan can be placed in an oven and the wax allowed to run out through the opening in the pan, into a dish.

## SEPARATORS.

Mr. N. N. Betsinger then gave an interesting talk about separators. He said in substance: I do not know to a certainty who first used section honey-boxes, but they were first used without separators. This manner of using them was unsatisfactory to me, and I began to devise something that would prevent the "bulge." The first substance used was glass, but many sheets broke, and many brace-combs were attached to the glass. I next used wood, and surprising as it may seem, the smoother the wood the greater the number of brace-combs attached. I next tried what is now used for separators all over the world, viz: tin. The only objection to tin is that brace-combs are attached; but the use of comb foundation largely decreased this trouble. In using half-pound sections I again dispensed with separators, and believe that my crop was thereby increased 25 per cent., but it was so badly bulged as to greatly delay its sale. I am now using a separator that is perfect. I have used it four years, and I do not think anything better will be discovered. It is wire-cloth, with a mesh of  $\frac{1}{4}$  inch. The cloth is dipped in melted metal, which fixes the wires. It is patented. I am aware that perforated separators have been used, and there are objections to this style. They are expensive, and the perforations will show, by the way of lengthened cappings upon the surface of the comb.

T. H. Kloer—Will not the bees place propolis in the meshes where they come in contact with the sections?

Mr. Betsinger—I should think they would, but they never have with me.

It was afterwards learned that in the case in which Mr. Betsinger used the wire separators, the sections did not come in contact with the separators; the space between the separators being so great that there was room for not only the section, but for a bee-space on each side of it, between it and the separators.

The following essay by Mr. A. J. King was then read, on

## FOUL BROOD.

This much hackneyed subject has appeared on the programmes of every bee-keepers' convention, county, State or National—so far as my information extends—for the past twenty-five years, or since the first organization of bee-keepers on this continent. Like all unsolved, yet important problems in apiculture, it will not "down" until the whole round of experimenting has been completed, and not even then, unless the necessary means for its cure have been discovered and successfully applied. To this noble element, in the mental "make up," characteristic of Americans, we owe the grand triumphs in science, art, and invention, which, in the aggregate, places the United States far in the "lead" of all nations on the globe. Were it not for this untiring disposition on the part of our apiarists, to seek out and correct the evils which have beset our chosen pursuit,

and to render available all discoveries and appliances, both scientific and mechanical, bee-keeping would to-day be where our fathers left it thirty years ago.

In this headlong rush of improvement, as might be expected, mistakes are often made, good things are condemned, and bad ones showed into prominence; yet through the agency of a few patient and careful investigators, assisted by the great corrector—time—the truth finally emerges from the confused mass of clashing opinions all the brighter for having passed the fiery ordeal.

The subject under consideration forms no exception to this general method of treatment, but rather stands as its chief representative. Scores of theories have from time to time been propounded, all confirmed by some and exploded by others, and still our "little pets" continue to be starved, boiled and burned.

It is the purpose of this essay to suggest that probably the true theory and radical cure of foul brood has already been discovered and confirmed, but either through prejudice or faulty experiment, a suspicion of "humbug" has been cast upon it, and so, many suffering apiarists have failed to avail themselves of its kindly aid. I refer to what is known as the "phenol cure" advanced by Mr. Cheshire, of England, the details of whose extensive experiments are familiar to most apiarists. I will not detain you by attempting to enlighten you as to what foul brood is, its appearance and indescribable yet never-to-be-mistaken odor, etc., but I will recite my own personal experience and final complete triumph over it, leaving others to judge the value of the method employed.

In October, 1885, I took charge of an apiary in Cuba, numbering nearly 400 colonies in two-story hives, situated on the side of a hill and completely protected by wide, high sheds from sun and rain. The utmost cleanliness and good order prevailed in all its appointments. The high and dry country and delicious climate left nothing in outward appearance to suggest disease, and yet I found nearly 100 colonies afflicted with foul brood, fifty of which were very bad indeed. The then superintendent had for some time been boiling hives and frames, burning combs and starving the bees, but had about given up in despair, saying that he believed the disease would continue to increase until the whole apiary would be utterly destroyed. I suggested that now would be a fitting opportunity of testing the phenol cure, but I was assured that this cure had been thoroughly tested and found wanting; that its originator was either a humbug, or that his bees had had a different kind of foul brood.

That phenol had been used with a lavish hand was attested by numerous empty bottles bearing that label, and by others of larger size containing the liquid mixed ready for use, but that Mr. Cheshire was a humbug I could not tolerate for a moment, and the idea of two distinct kinds of

real foul brood was certainly very doubtful. However, I determined on entering on my duties as "new superintendent," to give the formula of Mr. Cheshire a full and fair trial, and if successful to wait a sufficient time for the disease to reappear, if it would, before giving my experience to the bee-keeping public. I procured several bottles of pure phenol crystals, dissolved them by placing the bottle in hot water, and put one small measure full of the liquid into a tin pail, then with the same measure I added 499 parts of a mixture composed of  $\frac{1}{2}$  pure honey and  $\frac{1}{2}$  water, and made a plain mark on the inside of the pail as high up from the bottom as the liquid came, and so had a correct measure by which I could make feed rapidly.

When heated to 150° Fahr., the bees would eat it with avidity. I placed well filled combs of this feed in open hives in all the infected places, and besides visited the bad cases regularly every three days, taking out the combs one by one and thoroughly sprinkling them with the liquid. In two or three weeks I could perceive a marked improvement, and in three months the disease had almost entirely disappeared, except in three or four mild cases, purposely left to see if they would get well without treatment. As they did not they were then taken in hand and cured.

Nearly a year has now passed, and from frequent and very recent advices direct from the apiary, I learn that it has not reappeared, but that the bees are in fine condition, and give promise of great results when the season for surplus again arrives. In the experiments made with phenol, before the one I have recited, the solution was entirely *too strong*, as it turned the combs red; it was used too sparingly, and lastly it was not half sweet enough, nor warm enough, and the bees would hardly eat it at all.

Foul brood is not "indigenous" in Cuba, there not being a case on record in all the native apiaries; then how could it occur in this particular apiary? From several circumstances I am led to believe that it came through queens imported from infected districts in some of the British North American provinces. I have made many experiments, and have satisfied myself that the bacilli producing the disease belong mainly to the queen's ovaries. I would like to point out cases where requeening is necessary in treating the disease, and make several suggestions, but as my essay is now longer than intended, I will close by recommending all interested to follow Mr. Cheshire's formula literally and accurately, and they will not regret it.

R. L. Taylor said: I think that the description generally given of foul brood is not correctly interpreted by some. Many think that before the bees have foul brood the combs must be full of dead brood; that the dead larva can be drawn out to a yard in length, and the odor so great that it can be detected by walking past the hive. Such are not the facts; at least

not in the first stages of the disease. At first but a few cells of diseased brood will be found, the dead larva has a look resembling coffee with milk in it; it can be stretched out to the length of an inch, while the odor is not noticeable unless the nose is brought close to the brood. The larva shrinks and dries up until it looks like a speck of tar upon the lower side of the cell. I do not feel competent to criticise Mr. Frank Cheshire, but foul brood, in my apiary, was spread by the feeding (unknowingly) of honey taken from colonies affected with foul brood.

Wm. F. Clarke—I think that Mr. Taylor is mistaken. The genuine foul brood is of the color of coffee without milk, and it does not dry up, and the stench is so great that instead of striving to use the nose, it needs protecting.

R. L. Taylor—When the disease reaches an advanced stage, some of the characteristics mentioned by Mr. Clarke may be present. I am curing the foul brood by the starvation plan.

C. F. Muth agreed with Mr. Taylor.

Mr. A. I. Root gave a history of the breaking out in his apiary of foul brood. He thought it probable that it was brought there in honey that he had bought, to which the bees in some manner had gained access. They were taking away the combs from diseased colonies and burning the combs. They first used a tent to put over a colony when shaking off the bees, but this practice was discontinued, as flying bees that were outside the tent and belonging to the diseased colony entered other hives when unable to enter their own, and thus spread the disease. By placing the nose at the entrance of a hive, the disease could often be detected very quickly in its very earliest stages.

Rev. W. F. Clarke then read the following essay on

#### THE PAST, PRESENT AND FUTURE OF THE N. A. B. K. SOCIETY.

It is not my purpose to treat this theme in a way of sentiment. That has been done very skillfully by another hand, and "the harp of a thousand strings" has been touched into plaintive strains in view of the lapse of time and the passing away to "the beyond" of most of those who were prominently active in founding this organization. As one of the few who yet remain, and must soon go over to the majority, I might fitly dwell on life's brevity, and the duty of diligence while its little day lasts. I might recall many reminiscences of departed ones, read a chapter of lamentations on their loss, and, like many a long-visaged divine, ply you with exhortations on the uncertainty of sublunary things, and the vanity of man as mortal. But these topics are not in my line. Neither my philosophy nor my religion teach me that there is any virtue in solemnity. I can see some sense in being cheerful and joyous. Gladness lubricates the wheels of life, but solemnity is a drag and a break. The most solemn animal is the ass; the most solemn bird is the owl. "Stupid as an ass," and,

ironically, "wise as an owl" have passed into proverbs. It is no cause for gloom that one is getting old, if only the heart be young, and mine grows younger every day! My present object is a practical one. I wish to look over the history of this organization, glance at what it has accomplished, and picture some of the possibilities of the future.

The idea of a National Bee-Keepers' Convention originated in Michigan, the State which has given us a Cook, a Heddron, a Hutchinson, a Bingham, a Cutting, a Taylor, and a "Cyula Linswik," with other noted bee-keepers "too numerous to mention," also many apicultural ideas, "good, bad, and indifferent," including the best bee-hive, smoker and honey-knife extant, the pollen theory, and last but not least, the theory of hibernation.

When I read away up in Canada, the call for a National Convention at Indianapolis, Dec. 21, 1870, I said to myself, why can't this thing be international and continental? I resolved to go, and use my influence to have it so. Though I was the only representative present from Canada, my suggestion and request to have the association called North American, were courteously entertained, and we "Cannucks" were welcomed into full fellowship, where we have remained ever since, and propose to do so long as we are well treated, as we always have been thus far, and expect to be down to "the last syllable of recorded time."

This organization was formed simply and solely "to promote the interests of bee-culture." Has it fulfilled its mission? I contend that it has; not so fully perhaps as it might have done, if at the outset we had possessed the light of the present, but considering our *then* light, great and important results were accomplished. The first was the harmonization of conflicting interests, and the reconciliation of existing differences. Without being a resurrectionist of dead jangles and quarrels, I may fearlessly assert that from the first this organization proved itself a peacemaker. Men who had difficulties with each other were brought together, and persuaded to shake hands. Incipient cliques and rings were broken up. This association was the means of placing our venerated father, Rev. L. L. Langstroth, in his rightful position before the public. It prevented the laurels he had fairly won from being torn off his brow. It banished his enemies and the enemies of progressive apiculture into obscurity. Though it could not restore to him the fortune of which he had been robbed, and which no inventor ever earned more honestly, it could and it did "confess judgment" in his favor, and it has from time to time, by little presentations, testified its sense of an obligation it is unable fully to repay. A grand old book says: "The work of righteousness shall be peace." Adjustments on a basis of righteousness led to peace, and more than peace to brotherhood and good fellowship, so that when in two years after its organization, this association again met

in Indianapolis, I was able, without flattery, to congratulate the meeting from the Presidential chair on the predominant prevalence of the feeling embodied in the pithy Scotch motto: "Were brothers a'?" I added: "May this feeling be paramount to every other all through our proceedings. May all our discussions be carried on under its influence. Then, though we may have our differences of opinion—and it would be a dull, uninteresting time if we had not—these will not interfere with our good fellowship, nor lessen our enjoyment."

My prayer on that occasion has been answered too much. I have been like the person who prayed for rain in a dry time. It came, and not only rain but hail. An old lady who went to look at her garden after the storm, ejaculated, as she beheld her cabbages all riddled and torn, "Dear, dear, that's just the way with our minister, he always overdoes it." I think, as you know, that we have rather overdone the "brothering" business, and have carried it so far that it interferes with free, manly criticism.

Another good influence of the association has been to render apicultural humbugs and jimeracks well-nigh obsolete. I cannot take time to enumerate the number of these that there were sixteen years ago. Hardly any of them dared show face at our meetings, and if they did, it was like moth intruding into a hive of Italian bees—they were soon hustled out-doors.

Again, this association was the means of perpetuating the AMERICAN BEE JOURNAL. It met shortly after the lamented death of Samuel Wagner, father and founder of the JOURNAL. There was great danger of its coming to a stop. The widow and son, Mr. G. S. Wagner, were very anxious for its continuance, and offered favorable terms, but there was no money in it then, and no one was willing to take hold of it. Being at comparative leisure at the time, I was induced by the importunity of leading members of this association to embark in the enterprise. It was believed that by removing the JOURNAL from Washington to Chicago, it would be in a more favorable position for securing a constituency of paying subscribers. There was not only moral support pledged at the meeting spoken of, but eleven prominent bee-keepers joined in a bond of indemnity against loss to the extent of a \$1,000. But for this moral and material backing, I should never have embarked in the undertaking, and it is quite certain the backing would not have been given but for the enthusiasm kindled at that convention. The enterprise proved a success. There was no loss. A boom came in bee-keeping. Just prior to that boom, the JOURNAL passed into the hands of its present proprietor, a man eminently fitted to work it up—compositor, editor, publisher, all in one. I hope I do not tell tales out of school when I say that every type of the JOURNAL was set by the editor's own hands, and it was run with the strictest economy. Our friend Newman has honestly earned the success he has won, and the JOUR-

NAL has been in his hands, and is today, the right bower of North American apiculture.

I have said enough to show the association's right to exist because of the good it has done, but I have not exhausted this part of my subject. Briefly, let me add, the discussions at these meetings have cleared up many obscure points, diffused correct ideas in regard to bee-keeping, and furnished many novices with hints and instructions that have been of great value. Finally, it has given opportunity for forming the acquaintance of distinguished bee-keepers. When we see a name in print often, we speculate what manner of person it belongs to, and feel a curiosity for a personal interview. This curiosity has many times been gratified at these meetings, and never so signally as at Cincinnati in 1871, at Toronto in 1883, and at Detroit in 1885, when Father Langstroth was able to be present, and hundreds had the pleasure of seeing his benignant face, grasping his hand, and listening to the voice of "the old man eloquent."

On one, and I regret to say only on one occasion, the placid, open, genial and intelligent face of the late Moses Quimby appeared at the annual meeting of this association. It was in Cleveland, Dec. 6, 1871, and many of us felt it no small privilege to make the acquaintance and enjoy the society of a man so pre-eminently worthy of respect and esteem, and to whom modern apiculture is so largely indebted. These meetings have introduced to the personal knowledge of bee-keepers D. A. Jones, Prof. Cook, A. I. Root, James Heddron, and a host of others who have become famous in the realm of apiculture. Many very pleasant friendships have been formed, and now the social element, and the happy re-unions enjoyed, constitute some of the mightiest magnetic influences that operate in bringing members to this convention.

That this paper may not be chargeable with the garrulity of age, I shall allude but briefly, to the present and future of the association, for the present is before our eyes, and the future is for us to make. There is one respect in which the organization has not yet attained the original ideal of it which was present to the minds of the founders. In my address from the President's chair at the second Indianapolis meeting in December, 1872, I said: "Every member of this society should strive to get up a bee-keepers' club at home. These clubs should send representatives to State, Provincial or Territorial organizations, and this continental body should in due time, become representative, and be composed of a certain number of delegates from each State, Province, or Territory in North America, thus constituting a sort of high court of apiculture, to which the knottiest questions and hardest problems are submitted, and whence there shall emanate decisions and rulings of highest aparian authority."

At that meeting it was

*Resolved*, That the President of this society be authorized in its name and

behalf, to address a circular to all the bee-keepers of North America, urging the formation of neighborhood, county, State, territorial and provincial associations, auxiliary to this society.

A circular was accordingly addressed "to the bee-keepers of North America," which will be found on page 170, Vol. VIII of the AMERICAN BEE JOURNAL. Some attempts have been made since to realize this ideal, but without any great success. Our meetings have always been largely local, and not sufficiently representative. The constituency is so extended that it is difficult to avoid this, except on the delegation plan. A State, province or territory could easily afford to send one or two representatives, when the expense individually would be oppressive. Let all who can come outside the official delegation, do so, but let the whole continent be represented in this great apicultural congress.

As to the future, I would urge that the association work along the old lines, with the added feature I have been recommending. There are some who consider the organization unworthy of preservation. A few think it an evil because it discloses the secrets of the craft, while here and there one falsely accuses it of being managed by a ring. I have no sympathy with any of these views. If the association has been promotive of the interests of bee-culture in the past, and I have shown, I think, conclusively that it has, there is no good reason why it may not be equally, and even more useful in the days to come, if managed with that broader wisdom which we may expect to come with the progressive intellectuality of the age. The fear of disclosing secrets, I regard as a mere nervous weakness. You may blurt out all you know, and still bee-keeping is an art which cannot be learned by the million. It requires a peculiar combination of characteristics which few men, and still fewer women, possess. The mere knowledge of all that is known by Heddon, Jones, Doolittle, Hutchinson, or "Cyula Linswik" is not sufficient to produce second editions of these accomplished bee-keepers; there is a "knack" which is the result of a peculiar compound of mental qualities only found in here and there *one*. The difference between knowledge possessed and knowledge applied, is that between a cyclopaedia and a Morse or an Edison. Cyclopaedias are plentiful, but Morses and Edisons are scarce.

As to the association being managed by a ring, there never was a more gratuitous libel against an organized body than this. It has no "spoils" to attract "victors." "Where the carcass is, there will the eagles be gathered together." In this case there is no carcass, and consequently no birds of prey ready to devour. On occasions when there has been temptation and opportunity for a clique to usurp authority, there has been arising above all selfish interests. Notably was this the case two years ago at Rochester, when by the non-attend-

ance of Western bee-keepers the Eastern men had it all their own way. I am witness with what noble self-abnegation they arose to the duty of the hour, and made such management as issued in the best bee-convention ever held on this continent, and perhaps in the world. I refer to the Detroit meeting last December, the memory of which will long be green, fresh and fragrant in the minds of all who were present at that remarkable gathering. No, there is no ring, never has been, to my knowledge, and few know the association better than I do. The first and only attempt at cliquing was effectually squelched, as I have narrated in my brief history. In the same impartial way I hope and believe the society will go on, increasing in usefulness as the years pass along, until we meet in a purer, happier and everlasting fellowship.—

"Where thrilling music through the wilkin rings,  
And nectar sweet is gathered without stings."

I cannot close without giving expression to the pleasure I feel in being once more assembled with you at Indianapolis. It is like going back to one's birth-place, for here our association was born. What I said from the President's chair in 1872, I here beg to repeat with all the added emphasis which the lapse of 14 years can give:

"It is very fitting that we should meet on the present occasion in this city, where the initiatory organization was formed, and the plan of consolidation conceived and proposed; where, too, we received at the outset such tokens of appreciation from the citizens, the press, and the civic authorities, especially in the free use of the fine Senate Chamber, in whose honorable seats even our lady bee-keepers could feel for the time that they were not only *suffragists* but *legislators*, and now in this Supreme Court room, where we can feel that we have attained judicial elevation. From its peculiar and central position the cordial spirit of its officers, editors, and people, and the number of such bodies that have seemed to come here as by some law of gravitation, Indianapolis deserves to be styled Convention City, and if it has not formally received that name, I propose that the bee-keepers here assembled do so christen it, forthwith."

The selection of the location for holding the next meeting was then declared to be in order, and Chicago, Ills., was, by vote, selected.

Adjourned until 2 p.m.

#### AFTERNOON SESSION.

The meeting was called to order at 2 p.m., President Cutting in the chair. The first business transacted was the election of officers, which resulted as follows:

President, Dr. C. C. Miller, Marengo, Ills.

Secretary, W. Z. Hutchinson, Rogersville, Mich.

Treasurer, Chas. F. Muth, Cincinnati, O.

Rev. W. F. Clarke, Dr. A. B. Mason, and Mr. R. L. Taylor were appointed

a committee to report names for the Vice-Presidents.

#### HONEY-PLANTS.

Mr. A. I. Root gave a talk on honey-plants as follows: If possible those plants should be raised for honey that have value aside from honey-production. Alsike clover stands at the head of the list; buckwheat next. Following these are rape and raspberries. I do not, at present, know of any plant that I am certain that it will prove profitable to raise for honey alone. It is possible that there are four plants that it will be profitable to raise for honey alone, viz: sweet clover, figwort, spider-plant, and the Chapman honey-plant. The latter will continue to yield honey during a drought better than any plant of which I know. It is biennial, resembles a thistle, blossoms just after basswood, and continues in bloom about three weeks. It is self-seeding, and requires no attention after it is once started. The seed should be sowed in early spring. When the committee which was appointed to visit Mr. Chapman and learn more about this plant, was at Mr. Chapman's place, he had two acres of the plant in bloom. He also had 130 colonies of bees, and they were gathering honey in such quantities from the plant that they were building comb and storing honey. The honey is light colored, not high flavored, being of almost a pure sweet taste.

T. F. Bingham—It is not an uncommon sight to see as many as from 6 to 10 bees upon each blossom, and this continues from daylight until dark, let the weather be wet or dry. The stalk is of a very fibrous nature, and it is possible that the fiber might be used in making straw paper.

H. Chapman—I ground 2½ pounds of seed and pressed from it 9 ounces of fine, clear oil.

The committee appointed to select suitable persons for vice-presidents, would report, recommending that only those States, Provinces and Territories have vice-presidents appointed, who are represented either by the presence of delegates or the transmission of reports.

The following were then appointed Vice-Presidents for the ensuing year:

#### VICE-PRESIDENTS.

Florida—W. S. Hart, New Smyrna.

Georgia—Dr. J. P. H. Brown, Augusta.

Illinois—Mrs. L. Harrison, Peoria.

Indiana—Jonas Scholl, Lyon's Station.

Iowa—Eugene Secor, Forest City.

Michigan—R. L. Taylor, Lapeer.

Missouri—Jno. Nebel, High Hill.

Nebraska—Wm. Stolley, Grand Island.

New York—L. C. Root, Mohawk.

Ohio—A. B. Mason, Wagon Works.

Oregon—Frank S. Hardin, Portland.

Ontario—R. F. Holtermann, Brantford.

Pennsylvania—Arthur Todd, Germantown.

Quebec—H. F. Hunt, Villa Mastai.

Vermont—E. O. Tuttie, Bristol.

The committee on resolutions re-

ported the following, which were

adopted:

We the members of the North American Bee-Keepers' Society desiring to express our sense of the obligation we are under to our officers and others for the aid given in making

this convention successful, offer the following resolutions:

*Resolved*, That our thanks are due, and are hereby extended to our retiring officers, for their untiring efforts to promote the interests of this society, and especially to the General Manager of the National Bee-Keepers' Union, Mr. Thos. G. Newman, for his success in securing reduced rates on the railroads.

*Resolved*, That we will carry with us to our homes an abiding remembrance of the generous hospitality with which we have been received and entertained in this city of Indianapolis.

*Resolved*, That we hereby tender our hearty sympathy to our honored father in apiculture, the Rev. L. L. Langstroth, in his present illness, and pray that he may be speedily restored to health.

*Resolved*, That we also heartily sympathize with our brother, Mr. Vandervort, on account of the serious illness in his family, which has detained him from his usual place among us.

N. W. McLain, of Aurora, Illinois, then read an essay on "Bee-Keeping and Apiculture."

Mr. R. L. Taylor, of Lapeer, Mich., gave the following on

#### THE COMING BEE.

What encouragement have we to work for the advent of "the coming bee?" Shall we breed bees for color, or for honey-producing qualities? For fancy points, or for pecuniary profit? These are questions that must be fully settled in our minds before we can intelligently discuss the subject of the improvement of the honey-bee. We hear much of our breeders of white-haired bees, and gentle bees, and golden-banded bees, and patent Albino bees, but we hear little of breeders of bees for profit only, i. e., for profit in the production of honey, for, no doubt, breeders of these fancy bees find them very profitable. They sell all the queens they can produce at from three to ten times as much as can be obtained for queens without these fancy qualities—queens which are every whit as good, yes, generally much better as honey-producers.

We are fast degenerating into the condition of the poultry fraternity. With them, feathers fix the price of the chicken; but we err with far less temptation, for bees can never be made popular pets with which to please the eye and tickle the fancy of our uninitiated visitors. I would that all breeders of fancy bees would heartily seek with us for the bee that can produce the most; we cannot go with them, for, to use the slang of the period, we must have a bee for "business." But we who can so far liberate ourselves from the flavor of classic things as to think "American" as pretty a name as "Ligurian," and can see the most beauty in what does the most, what hope have we for the improvement of the bee?

All honey-producers, I suppose, harbor more or less hope that the honey-bee will be found capable of

marked improvement; but our hopes undoubtedly are of all degrees of vigor and stability, according to each individual's clearness of knowledge and comprehension of the facts touching the subject, as well as to his manner of looking at these facts. Whatever improvement is possible can, without question, be most quickly reached or approximated by unity of effort, for everywhere there is strength in union. It is desirable, then, that this subject be discussed until we may, if possible, come to stand on some common ground.

As my time will permit me to set forth only an outline of my thoughts on this subject, let us take at the outset a brief view of what nature had done for the bee before it came to the hand of man. We must not forget that in a state of nature the rule of the survival of the fittest is a very different thing from what it is when guided by the hand of man. In a wild state the chief quality required by the bees to fit it to survive—to persist in living—is the ability to provide under the severest stress of circumstances sufficient food to supply its wants during the ensuing period of repose; in the ox it is not good beef, nor rich milk, but horns, strength, courage and agility to enable him to overcome or to escape his enemies and to master his mates that are not so highly gifted with these qualities.

During the roll of unnumbered centuries nature has been training the bee in the gathering of honey, and the greater the stress of circumstances under which the bee has existed, the more thorough has been its education. With the ox most of the qualities that fit him to survive in a wild state, specially fit him in domestication to die early. To fit him for man's use, all these qualities must be changed, and to effect the change the rule of the survival of the fittest must in its application be entirely changed. Now the qualities that make fitness to survive are, the most and the best beef and milk. But note that nature's education of the bee has all been precisely in the line calculated to produce the character and qualities which man so much desires it to possess, so much does the constitution of things favor the bee-keeper. Of the ox, man gets from nature little but a germ; of the bee, the well-nigh ripened fruit.

But on the other hand, in the domesticated state the bee runs great risk of positive deterioration. The ox naturally improves under the hand of man, because selections for breeding will be made almost without thought, and his better food and protection will favorably affect the growth and development; but with the bee better pasture and better protection too often prolong the existence of the poorest, and so their blood is perpetuated in subsequent stock. This would be true under what is known as the old method of bee-keeping, but with how much greater force does it apply to bee-keeping under our new methods, with our feeders, and packing, and cellars,

and the ready means which the movable comb furnishes us of preserving the lives of queens which are ready to perish on account of a lack of attendants.

Queens have a market value, and everything having a market value must be saved without regard to its intrinsic worth! Many complaints have been made on account of the low price at which queens must be sold, but I sometimes think that it would be immeasurably better, since we cannot well fix their quality, if their value were so much lower than it is that there would be no temptation to preserve the lives of inferior ones.

So we have in our favor the mighty hand of Nature, which with one finger supplied the sparse pasture of the wilderness and the mountain, and with another inexorably destroyed such colonies as did not from such pasture lay up a sufficient supply for their wants. And on what a high vantage ground this places us! Then we have the wonderful rapidity with which we may get increase from superior stock, and we must not forget to thank our stern winters that destroy the bees of those who are careless of the comfort, and so of the qualities of their honey-producing stock.

But on the other hand, we have much to contend with. The rich pasture of our cultivated lands generally enables bees of the poorest quality to get enough for their wants; and what an army we have of those who are careful of their bees, but careless of their quality! They preserve all their queens because it is a calamity to let a colony become queenless, and their colonies that are too poor to collect enough to supply their own wants they feed, for it is also bad to lose a colony. The prevalent curse too of breeding for fancy qualities is abroad, and, like foul brood, is frightfully contagious. But worse, perhaps, than all, we have not learned to control the drones—worse because with the drones under control all these other obstacles would almost vanish.

One hundred years ago the Collingses of Great Britain undertook the improvement of the ox. For their purpose they selected stock wherever found, of whatever name or color having qualities which they desired to perpetuate. Their stock was originally improved by importing Holstein and Holland cattle which they used in crossing. Subsequently they crossed with a polled Galloway, from which was obtained a breed of great repute, and as the final result they obtained the magnificent short-horn. We might accomplish in ten years with bees what they did in one hundred with cattle!

What ten, fifty or one hundred of our most successful honey-producers will form a syndicate, and, under competent management, on an island or a prairie, secure from any interference, put any colony or colonies they may from time to time find in their own apiaries showing more than ordinary honey-producing qualities, without respect to race, or name, or

color, and let them be there bred on scientific principles, with the most relentless culling and the most careful tests?

The mind of some one here is no doubt full of notes of exclamation and interrogation, and would exclaim: "What! would you cross and combine the races?" My reply is, yes! If we ever succeed in making a decided improvement in the honey-bee, that improved bee will not be a pure blood of any of the existing races. No existing race has a monopoly of the desirable qualities—certainly not the Italian.

Let me make a suggestion, in closing, with regard to the cross-breeding of bees. Some one, I have forgotten who, in one of our apicultural publications, to illustrate his ideas of the evils of cross-breeding, said, in substance, that he had a cow—a cross, if I remember, between a short-horn and a Jersey, that proved to be an excellent milker; but, he went on to say, a further cross would result in a progeny of little value. He was in a measure correct in his statements with regard to the crossing of two breeds, which had each been bred for a purpose so entirely and radically antagonistic to that of the other. Indeed, he might have gone farther, for his cow, the first cross might naturally have inherited the poverty-stricken sinews of the one parent and the non-milking qualities of the other. But he was entirely in error in his application of these facts to the case of the honey-bee.

As we have seen, all our races of bees have been bred by nature for honey-production, and so nearly equal are they that each race has its friends. From whichever parent a cross-bred bee inherits, it must still be a honey-producer, and the same must be true of all subsequent crosses; and, to produce anything else, nature must "go back" on all her previously established laws.

After the reading of the above the convention adjourned until 8 p.m.

#### EVENING SESSION.

The meeting was called to order at 8 p.m., President Miller in the chair.

An essay by James McNeill, of Hudson, N.Y., was read, on "Feeding Bees for Winter."

Dr. A. B. Mason then read the following essay, entitled

#### WINTERING BEES.

There has been so much said and written on this subject that it would seem that among the numerous methods, each claiming to be the best, the least experienced might find some way to winter bees without the annually recurring loss.

Even among our most successful apiarists we frequently hear of heavy winter losses. This leads me to believe that it is not the want of the knowledge, but a failure to put that knowledge into practice. If it is true, as we have been told from childhood, "in a multitude of counsel there is safety," we should all be able to winter our bees without loss.

In order to be successful in wintering, we are advised by "knowing ones" to keep our bees warm, at a temperature anywhere from 40° to 90°, to keep them cool; to keep them in the wood-house, chamber, cellar, or barn; to bury them; to pack with chaff; to remove all pollen; to so fix them that they will hibernate, and to leave them out-doors without any attention whatever, each wintering at times with perfect success. But as "one bird does not make a summer," so success by any method for one winter does not establish it as a fact, that such method is the best.

Five years ago Prof. Cook, in his book, said: "If the problem of successful wintering has not been solved already, it surely will be, and that right speedily. So important an interest was never yet vanquished by misfortune, and there is no reason to think that history is now going to be reversed." Has this prediction been fulfilled? I fully believe it has, and did all use the same forethought, diligence and care exercised in their other business, all would meet with the same success in wintering bees that they do in those avocations.

I am not verdant enough to think that I can offer anything entirely new on this most important subject, and can only hope to rather bring anew before you what has already frequently been said, and with the hibernation goblin, and various other theories staring me fully in the face, I do not hesitate to say that without pollen, as well as with, I do winter my bees as safely and surely as my horses, cows, and other stock.

It is not to be presumed that I am to settle this question of how to successfully winter bees, but if all thought and practiced as many who succeed best do, I believe there would be much less need of discussing this question.

The first question that would naturally be asked is, what is the cause of our winter losses? All kinds of causes are mentioned, such as cold, confinement, too much and not enough moisture, ventilation and want of ventilation; brood-rearing, bad honey, starvation, pollen, not hibernating, etc., but nearly all the lost bees have diarrhea, and I believe it is pretty generally admitted that this is the great cause of winter loss.

The next question, then, would be, what is the cause of bee-diarrhea? The answer to this is not so unanimous. That bee-diarrhea is the result of an over-loaded condition of the intestines will be denied by but few. But, what causes this over-loading? Some say, "cold is the real cause," but it seems to me this cannot be, for fecal accumulations take place without the aid of low temperature, and one of our most prominent bee-keepers has said that "cold alone cannot produce fecal accumulations."

In a lecture before the British Bee-Keepers' Association, Mr. Frank Cheshire said: "In prolonged spells of intense severity, stores often become (especially if unnaturally placed) so cold that the bees cannot touch them, and then the saccharine matters

in their fluids being exhausted, they have to draw upon their own muscular tissues to work them into material which should be heat-producing; that is to say, the bee has now to oxidize herself, and for the present is converted into a carnivorous creature, having to devour her own body" . . . "A portion of the tissues remained which could not be got rid of thus. This must pass away through the bowels. A large quantity of phosphates and sulphates passes off into the bowels, and to these the urinary secretions are added. But while the bee is being loaded in this way, another unhappy circumstance is going on—the integuments of the bee were being reduced in weight, it becomes lighter and weaker; yet the bowels were getting so loaded that when the bee tries to fly it has a greater amount to carry than if it had been properly fed." So we see that starvation may sometimes be the cause of diarrhea.

If cold were the cause, keeping them warm ought to remedy the evil, but unfortunately it does not always. If confinement is the cause, then why do not all that are confined die? Confinement is a necessity in producing diarrhea, but cold is not. There can be confinement without diarrhea, but can there be diarrhea without confinement?

Ventilation, unless it be at the entrance of the hive, and brood-rearing, it seems to me, need hardly be taken into account in wintering. Poor honey in the hive may, but does not always produce diarrhea. The same is true of pollen, but diarrhea is so seldom produced without pollen that the exceptions need hardly be taken into consideration. That the eating of bee-bread, and the floating pollen in the honey during confinement, when not used in brood-rearing, will not produce diarrhea, it seems to me, cannot be truthfully asserted.

That the wintering problem has been solved, I think no longer admits of doubt. Many things might be named as aids in successful wintering, but I believe all may be included in two—proper food and right temperature. That bees may be wintered on a very poor quality of honey has been fully demonstrated, but success is not always assured when wintering on any other than stores of good quality.

Proper food is of first importance, and may consist of either honey or sugar syrup, or both, and may or may not, include bee-bread. If it is desired to have brood-rearing going on before the bees can gather pollen in the spring, it must be included in the winter stores. Many successful bee-keepers say they do not want their bees to rear brood till they can gather pollen from natural flowers in the spring, but my own experience satisfies me that I can get a much larger yield of honey from a colony that commences to breed in January or February than I can from one that does not.

Second only to proper food is the right temperature. This question then would naturally arise, what is the right temperature? I have had the

best results with a temperature of about  $45^{\circ}$ , during the first part of the winter, and until brood-rearing begins, which is usually in January, although frequently it begins in December; it is seldom as late as February. From this time on I prefer a higher temperature, gradually increasing to about  $55^{\circ}$ . I have never been able to reach the high temperature from  $60^{\circ}$  to  $90^{\circ}$  that some claim to employ, for at from  $55^{\circ}$  to  $60^{\circ}$  my bees always become uneasy. If the repository is damp, I prefer a higher temperature than if it is dry.

A special repository, or a house-cellar may be used to secure this desirable result—desirable on account of the assured safety of the colonies, a large saving in honey, and their strong condition at the commencement of the honey season.

My method of wintering is as follows: As soon as settled cold weather arrives, in this locality about Nov. 15, I place my bees in the cellar with the honey-quilt glued fast, and the entrance open full size. I will simply add that a fair knowledge of bees, faithful attention to the apiary, and a thorough and timely preparation for the honey-flow, swarming and wintering will make any man or woman a successful bee-keeper.

Some discussion followed on the subject of what were the qualities of the best honey-gatherers, but nothing of general importance was brought forward.

A question being asked concerning perforated honey-boards, Mr. R. L. Taylor gave a description of those used by him, and thought they were of much advantage.

The remainder of the evening was spent in listening to music, songs, and recitations, feasting upon ice-cream and cake, and in delightful social intercourse.

Mr. P. J. Kelleher, who had been requested by the Indiana State Society to be present, recited Riley's poem, entitled "Fessler's Bees," which was very amusing, and caused much laughter.

Mr. C. F. Hansen, a blind musician, gave several instrumental pieces on the piano, as well as two or three songs which were received with applause.

After recitations by Dr. C. C. Miller and Thomas G. Newman, a vote of thanks was passed to the ladies and gentlemen who had provided the entertainment, and the convention adjourned to meet on Thursday at 9 a.m.

Mr. Newman then gave notice that the members and friends of the National Bee-Keepers' Union would meet in the hall at 8:30 a.m., and requested a prompt attendance.

### THIRD DAY.—THURSDAY.

#### NATIONAL BEE-KEEPERS' UNION.

At 8:30 a.m. Dr. C. C. Miller, one of the vice-presidents of the National Bee-Keepers' Union, called the members and friends of the Union to order, and the manager, Mr. Thos. G. Newman, was requested to read the

Constitution, and it was discussed article by article, but, after considerable debate, it was not thought desirable to advise any changes, and the meeting adjourned.

The North American Bee-Keepers' Society was then called to order by President Miller, and the next subject on the programme was the "Bee-Keepers Union."

Mr. Newman gave a short history of the work of the Union, and of what it had accomplished. At the close of his address the following was passed:

*Resolved*, That in the judgment of this society the National Bee-Keepers' Union is entitled to and should receive the support of all bee-keepers.

The following were elected honorary members of the society:

E. Bertrand, Nyon, Switzerland.  
Frank H. Cheshire, London, England.  
Rev. Wm. F. Clarke, Guelph, Ont.  
Prof. C. V. Riley, Washington, D. C.  
Hon. Ross, Ontario, Canada.  
Hon. Edwin Willits, Lansing, Mich.

By request, Dr. Mason took the chair, and President Miller moved that a committee of three be appointed by the chair to inquire into the desirability and feasibility of securing such legislation as will give a bee-keeper an exclusive right to keep bees in a certain territory; the committee to report at the next annual meeting. It was carried; and the following persons were appointed: C. C. Miller, I. N. Cotton, and Frank L. Dougherty.

The Secretary reported that he had received from Thomas G. Newman & Son 200 copies of the proceedings of last year, and had mailed to members of the society, 104; sold 7; donated to public libraries 5; leaving on hand 84.

A vote of thanks was passed for the presentation of 50 extra copies of the History of the North American Bee-Keepers' Society, by Messrs. Thos. G. Newman & Son, mentioned in the President's address, as having been received and sent to the public institutions and libraries of the United States and Canada.

The chairman of the finance committee reported that they had examined the books, also the bills, and had found all correct, with all the expenses paid, and a balance on hand of \$1.06.

As it had been voted to publish the proceedings of this meeting in pamphlet form, same as last year, a collection was taken up to supplement the small balance in the treasury, and raise the sum of \$30 wherewith to purchase 200 copies in order to furnish each member with a copy of the Report. The amount collected was \$17.35, making \$18.40 in all, and Mr. Newman generously contributed the balance necessary to make up the \$30, so that the promises made to members might be fulfilled, by each one having a copy of the Report in pamphlet form, by mail.

Mr. N. W. McLain, chairman of the committee that was appointed by the society last year to investigate the merits of the so-called Chapman

honey-plant (*Echinops sphaerocephalus*) read his report, but the subject being so well covered by the remarks made by Mr. A. I. Root in his remarks under the heading of "Honey-Plants," to produce it here would be somewhat of a repetition.

A letter was read from Mr. A. E. Manum, one of the members of the committee, stating that if he were present at the meeting, he would move a vote of thanks to Mr. Chapman for the services he had rendered to bee-keeping, in the propagation and diffusion of this plant.

The report of the committee was received and placed on file, and a vote of thanks passed to Mr. H. Chapman, as suggested in Mr. Manum's letter.

An essay by J. E. Pond, Jr., was read, entitled "Reversible Hives and Frames."

After the reading of Mr. Pond's essay, the meeting adjourned until 2 p.m.

### AFTERNOON SESSION.

The meeting was called to order by Dr. A. B. Mason, who took the chair by request, President Miller having gone home.

The next essay read was that of W. Z. Hutchinson, on

#### DRONES AND DRONE COMB.

That drones perform any important function aside from fecundating queens, I very much doubt. That they assist in keeping up the heat of the hive is not disputed, but this can be done equally as well by workers, and when of sufficient age they gather honey. It costs honey and the time of nurse bees to rear drones, and they consume, but do not gather honey all of their lives. That the bees rear drones only when they will be needed, or the bees expect they will be needed for the fertilization of queens, and that they destroy them or drive them from the hives when there is no farther prospect of their being needed for mating with queens, is an indication that they serve no other purpose.

Just before swarming time I one year gave each of 25 colonies an empty frame. Every frame was filled full of drone comb, and every comb filled with drone brood. When these colonies swarmed, many of the swarms were hived upon empty frames, and these same bees that one week previous were so anxious for drones, now bent their energies to the production of worker comb. Before swarming, the bees knew that drones would be needed for the fertilization of the young queens; the newly hived swarm possessed a laying queen, and no desire to swarm, hence no drones were needed, and no drone comb was built. By the time that the drone brood had hatched in the old colonies, each possessed a young fertile queen, and there was no immediate use for drones, hence, although the drone comb occupied the centre of the brood-nest, not a drone was reared in it.

It may be asked, why do bees rear so many drones if their only use is the

fertilization of queens? Nature is always very prodigal in all matters bearing upon the certainty of reproduction, and we can often step in and interfere to an advantage. A few dozen drones to each hive is sufficient in an apiary. And right here let me say that we have very properly paid a great deal of attention to the rearing of our queens; have reared them from the best of mothers, and in the best manner possible, while the drones have been reared hap-hazard. The breeders of stock well know that prepotency is on the male side, and work accordingly.

It seems that the artificial fecundation of queens is possible, but not practicable for the owner of a large apiary who produces honey for a living. We sometimes may learn to control the mating of queens as easily as the mating of other stock is controlled; and we may not, but we can do this: We can allow no drone comb except the few cells that the bees will crowd in at the corners of combs, in all ordinary colonies, while in some of our best colonies we can rear an abundance of drones. *We should rear our drones with as much care as we rear our queens.*

As perhaps many are aware, I have, for the past four years, been allowing newly hived swarms to build their own combs in the brood-chamber; and that I have found it a profitable practice. Since I have written so much upon the subject, others have tried it. Some have succeeded as well as myself, while others complain that the bees build too much drone comb. In almost every instance when the bees built drone comb they did not rear drones in it, but filled it with honey, which shows that they did not build it because they desired drones, but rather because honey was coming in rapidly, and sufficient inducements were not offered them to store it elsewhere, so they built drone comb to store the honey in, because more room could thus be secured more quickly and with less labor. The only instances in my experience in which brood has been reared in drone comb newly built in newly hived swarms, was when the queens were old and about to be superseded. This has occurred in my apiary only twice. When using Langstroth frames I hive a swarm upon five or six frames; and have in one instance had two frames filled with drone comb and the comb filled with brood. The queen was old. In no other instance have I had more than one drone comb built, and this has not occurred more than three or four times. I have more than 50 colonies in the new Heddon hive, and so far I have found only two drone combs.

To be brief, the building of drone comb has, with me, proved to be no objection to the hiving of swarms upon empty frames. I have, through the bee-papers, several times given my method of management; but I will briefly recapitulate: Do not have the brood-chamber larger than five Langstroth frames. Have the frames supplied with starters of foundation  $\frac{1}{2}$  of an inch wide. Place the frames

not farther apart than  $1\frac{1}{2}$  inches from centre to centre. Use a queen-excluding honey-board. Have young queens. Remove the supers from the old to the new hive at the time of hiving, adding an extra case of sections, next to the hive, if necessary to give the bees plenty of room.

It is, of course, possible that there are some other points, in this matter, that I have not presented, but I have, for four years, made a success of this system, and as nearly as I can discover, I have given the reasons for my success.

T. F. Bingham—Why not use full sheets of foundation?

W. Z. Hutchinson—Because they would soon be drawn into full combs, when honey that would otherwise be stored in the sections, would be placed in the brood-chamber.

T. F. Bingham—I have several times tried hiving swarms upon shallow frames, both with and without foundation, and have secured better results by using foundation. Bees will occupy an empty brood-chamber sooner than they will a super filled with foundation.

W. Z. Hutchinson—I do not put on supers filled with only foundation when hiving swarms, but move the supers from the old hive to the new, and the sections in these supers have combs in all stages of development, and the bees are soon back at work upon the very sections that they so hastily deserted.

O. O. Poppleton—at our Iowa State Convention, held a short time ago, this subject was discussed in a lively manner, and five-sixths of those who spoke reported trouble from excessive building of drone comb. Perhaps the success of Mr. Hutchinson may be attributable to his locality; for example, the flow may be slow.

W. Z. Hutchinson—I know that I succeed, and I have given all the reasons I can think of why I succeed, but I am well aware that there may be other reasons, and the one mentioned by Mr. Poppleton is a fair one for consideration.

The committee on exhibits, would report the following articles on exhibition:

J. Van Deusen & Son, Sprout Brook, N. Y., comb foundation, thin and heavy, the latter wired and unwired.

James Fornerook & Co., Watertown, Wis., white basswood one-piece sections.

G. W. Broadbeck, Indianapolis, Ind., wooden feeder.

Bingham & Hetherington, Abrovia, Mich., honey-knife and smokers. Brood-nest of stingless bees.

N. N. Betsinger, Marcellus, N. Y., woven-wire separators, and section-case.

N. D. Coffin, Westland, Ind., slate honey-board.

Cera Manufacturing Company, Baltimore, Md., foundation on wood, paper and linen.

H. D. Cutting, Clinton, Mich., tin bee-feeder, and section-box former.

Dr. G. L. Tinker, New Philadelphia, O., sections and queen-cage.

W. Mason, Fillmore, Ind., extracted honey.

E. S. Armstrong, Jerseyville, Ills., reversible hive.

G. W. Demaree, Christiansburg, Ky., supers for comb and extracted honey.

H. D. Davis, Bradford, Vt., surplus sections and shipping-case.

The Hub Manufacturing Company, New Hampton, Iowa, Wells' patent window screen for honey-house windows.

A. Cox, Whitelick, Ind., "PURE HONEY." in letters as worked by the bees, also several glass globes nicely filled.

Ora Knowlton, New Brunswick, Ind., very fine display of honey-plants mounted on card-board.

G. B. Lewis & Co., Watertown, Wis., sections for honey.

T. S. Bell, Valparaiso, Ind., extracted honey.

E. O. Tuttle, Bristol, Vt., photograph-medley of the principal bee-keepers in America.

H. Chapman, Versailles, N. Y., Chapman honey-plant.

Dougherty & Wiley, Indianapolis, Ind., books, smokers, sections, and general stock of bee-supplies.

Chas. Dadant & Son, Hamilton, Ills., comb foundation.

The essays offered at this meeting were both numerous and lengthy, and when the hour of adjournment arrived there were several unread essays yet on hand, and the pent-up feeling upon the subject resolved itself into the following:

*Resolved.* That the executive committee be instructed to select essayists and assign topics for the next convention; to have fewer and shorter essays, and to exclude, except in rare cases, all essays written and forwarded by absentees.

The convention then adjourned sine die.

F. L. DOUGHERTY, Sec.

#### Convention Notices.

**[■]** The next annual meeting of the Michigan State Bee-Keepers' Association will be held in Ypsilanti, Mich., on Dec. 1 and 2, 1886.

H. D. CUTTING, Sec.

**[■]** The Illinois Central Bee-Keepers' Association will hold its next meeting at Mt. Sterling, Ills., on Nov. 24 and 25, 1886.

J. M. HAMBAUGH, Sec.

**[■]** The next annual meeting of the Nebraska State Bee-Keepers' Association will be held in Lincoln, Nebraska, on Wednesday, Jan. 12, 1887. Location of Hall to be used and Hotel accommodations will be given after further arrangements have been made.

H. N. PATTERSON, Sec.

**[■]** The next meeting of the Bee-Keepers' Association of Hamilton and Tipton counties, Ind., will be held at Westfield, Ind., on Saturday, Nov. 6, 1886. The following interesting programme has been arranged: Opening address—Musical Address of Col. H. Mills; Best method of wintering bees; D. Leaming; Discussion opened by Marion Moore; Best method of realising the largest amount of profit on a colony of bees; M. Doherty; Discussion opened by Isaac Booth; Best method and time to prepare the bees for spring work; Zimri Kivett; Discussion opened by Dixon Bray; Question box. All interested in bee-keeping are invited to come, bringing their baskets well filled, so as to stay all day, and make this one of the most interesting and profitable sessions that the Association ever held.

**[■]** The Patahala Bee-Keepers' Association of Ala., request bee-keepers throughout the State, to meet delegates from this Association in Montgomery, Ala., on Nov. 9, 1886, for the purpose of forming a State association. The State Agricultural Fair will meet there on Nov. 8, and hold one week. Liberal premiums are offered to bee-men. Let me hear from every bee-keeper at once.

J. R. McLEND. N. Pres., Stoddard, Ala.

**Our Book Premiums.**—To encourage all our present readers to get one or more additional subscribers we will present 25 cents' worth of books for every new subscriber (accompanied with \$1 for one year's subscription), sent direct to this office. Thus for five new subscribers with \$5, the getter up of a club gets \$1.25 in valuable reading matter, to be selected by himself from our list on the second page of this paper. It will pay you to devote a few hours to the interests of the *BEE JOURNAL*. Every one who keeps bees ought to take it. We will furnish sample copies *free* in any quantity to those who intend to get up clubs. We expect to get 5,000 new subscribers for 1887.



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**ALFRED H. NEWMAN,**  
 BUSINESS MANAGER.

## Special Notices.

**To Correspondents.** — It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

**Dr. Miller's Book,** "A Year Among the Bees," and the BEE JOURNAL for one year, we will club for \$1.50.

**A New Crate** to hold one dozen one-pound sections of honey.—It has a strip of glass on each side, to allow the honey to be seen. It is a light and attractive package. As it holds but one tier of sections, no damage from the drippings from an upper tier can occur. We can furnish the material, ready to nail, for 9 cts. per crate. Glass 1½c. per light, extra.

**Yucca Brushes** are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. As each separate fiber extends the whole length of the handle as well as the brush, they are almost indestructable. When they become sticky with honey, they can be washed, and when dry, are as good as ever. The low price at which they are sold, enables any bee-keeper to have six or more of them, so as to always have one handy. We can supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

**Five Thousand** new subscribers to the BEE JOURNAL is what we have made our calculations for; they will come in clubs between now and next spring. Installments are coming every day.

**Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office, or we will send them all to the agent.

## Honey and Beeswax Market.

The following are our very latest quotations for honey and beeswax:

### CHICAGO.

**HONEY.**—Receipts are liberal and prices vary from 10@13c. per lb. for white in sections varying from 1 to 1½ and 1½ lbs. Many sales of good white 1-lb. sections are made at 11c. Extracted is quiet and ranging from 50c@7c. **BEESWAX.**—23@25c. **R. A. BURNETT,** Oct. 13. 161 South Water St.

### NEW YORK.

**HONEY.**—We quote this year's crop as follows: Fancy white in 1-lb. sections, clean and neat packages, 13@16c.; 2-lbs., 12@13c.; fair to good 1-lbs., 12@14c.; 2-lbs., 10@11c.; fancy buckwheat 1-lbs., 11@12c.; 2-lbs., 9@10c. White clover extracted in kgs. and small barrels, 6@7c.; California extracted in 60-lb. cans, 56@1-2c.; California comb honey, 10@11c.

**BEESWAX.**—Prime yellow, 22@24c.

**MCAUL & HILDRETH BROS.**, 34 Hudson St.

### BOSTON.

**HONEY.**—The demand has improved. We are selling one-pound packages of white clover honey at 14@15c.; 2-pounds at 13@14c.

**BEESWAX.**—25c. per lb.

**BLAKE & RIPLEY,** 57 Chatham Street.

### DETROIT.

**HONEY.**—Best white in 1-lb. sections, 12@13c.; dark, 10@11c., with a good supply in commission houses.

**BEESWAX.**—23c. **OCT. 10.** **M. H. HUNT,** Bell Branch, Mich.

### CINCINNATI.

**HONEY.**—Demand is fair for choice comb in 1 and 2 lb. sections, which brings 12@15c. a pound in a jobbing way, according to quality and neatness of package. There is a fair retail and jobbing demand for extracted in square glass jars, while the order trade for dark grades from manufacturers is improving. Range of prices for extracted is 3@4c. per lb.

**BEESWAX.**—It is in good demand, and good yellow brings readily 20c. **OCT. 8.** **C. F. MUTH & SON.** Freeman & Central Av.

### CLEVELAND.

**HONEY.**—Choice new honey in 1-lb. sections is selling at 14c.; 2-lbs., 12@13c. Old honey is very dull at 10@12c. Extracted, 6@7c.

**BEESWAX.**—25c.

**A. C. KENDEL,** 115 Ontario Street.

### MILWAUKEE.

**HONEY.**—The market for honey of choice quality is firmer and we are trying to establish a higher range of values. We quote 1-lb. sections of white at 12@13c.; 2-lbs., 11@12c.; dark not wanted. Extracted, white, in half barrels and in cans, 6@7c.; in the packages, 7@7½c.; in barrels, as to quality, 56@1-2c.

**BEESWAX.**—No demand.

**OCT. 2.** **A. V. BISHOP,** 142 W. Water St.

### SAN FRANCISCO.

**HONEY.**—There is a firmer market for extracted, and especially for comb honey, as the crop of the latter is rather small. Apiarists have sold what they were obliged to dispose of for payment of packages and labor, and they hold the balance back at higher prices. The demand is increasing, and we quote with ready takers, 4@5c. for choice extracted; 3@4c. for amber; 1-2c. for white; 8@11c. for comb honey in 2-lb. sections; 12@13c. for 1-lb. sections.

**BEESWAX.**—It finds buyers at 20@23c.

**Sept. 28.** **SCHACHT & LEMCKE,** 122-124 Davis St.

**HONEY.**—Receipts are light and the market is very quiet. We quote: White extracted, 4@5c.; amber, 3½c. Comb, 8@10c. for white.

**BEESWAX.**—19@22c.

**O. B. SMITH & CO.**, 423 Front Street.

### ST. LOUIS.

**HONEY.**—Choice comb, 11@12½c.; latter price is for choice white clover. Strained, in barrels, 3@4c. Extra fancy of bright color and in No. 1 packages, ½ advance on above prices. Extracted in barrels, 4@5c.; in cans, 6@7c.

**BEESWAX.**—Dull at 21c. for choice.

**Sept. 30.** **D. G. TUTT & CO.**, Commercial St.

### KANSAS CITY.

**HONEY.**—Demand for all grades is good, and sales are large. Receipts are good and prices are steady with a firm feeling. We quote: 1-lb. sections of white clover, 13@14c.; dark, 10@12c.; Calif. 2-lbs., 9@11c.; ½-lb. white clover, 14@15c. Extracted white clover, 8@7c.; dark, 6@8c.; white sage, 5½c.; Calif. amber, 5c.

**BEESWAX.**—20@22c.

**Oct. 15.** **CLEMONS, CLOON & CO.**, cor. 4th & Walnut.

## Home Market for Honey.

**To create Honey Markets** in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 30 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, \$2.50. Five hundred will be sent postpaid for \$10.00; or 1,000 for \$15.00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

**To give away** a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

## System and Success.

**All** who intend to be systematic in their work in the apriary, should get a copy of the Apriary Register and commence to use it. The prices are reduced, as follows:

For 50 colonies (120 pages) ..... \$1.00  
 " 100 colonies (220 pages) ..... 1.25  
 " 200 colonies (420 pages) ..... 1.50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

**Red Labels** for one-pound pails of honey, size 3x4½ inches.—We have just gotten up a lot of these Labels, and can supply them at the following prices: 100 for \$1.00; 250 for \$1.50; 500 for \$2.00; 1,000 for \$3.00; all with name and address of apriarist printed on them—by mail, postpaid.

**Sweet Clover, or Melilotus Alba,** is almost the only resource for honey now, on account of the late severe July drought. If the seed is planted in September, it will come up this Fall and bloom next year, in its second season.

We have a large lot of this seed on hand, and offer it at the following Reduced Prices, by express or freight:

One pound	20
" peck—15 lbs	25
" bushel—60 lbs	7.00
" sack—80 lbs	8.00

It will pay to buy it by the sack and sell it again in smaller quantities.

**If you want a chance to make some money, and provide pasture for the bees during the Fall months, this is your opportunity!**

**The Convention History of America** and the AMERICAN BEE JOURNAL for one year, will be clubbed for \$1.15.

**As there is Another** firm in Chicago by the name of "Newman & Son," we wish our correspondents would write "American Bee Journal" on the envelope when writing to this office. Several letters of ours have already gone to the other firm (a commission house), causing vexatious delay and trouble.

## Advertisements.

**WANTED**, an active, reliable man in every city and town in the State of Illinois to work up Councils of the American Legion of Honor, an insurance organization now having 60,000 members, and we are willing to pay liberally in cash for services rendered in this work. It can be performed at odd and leisure hours without interfering with regular business, and is an occupation affording much pleasure to those engaged in it. For full explanation how to go to work and what to do, address

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## THE CHAPMAN HONEY-PLANT.

In accordance with a previous notice in bee-periodicals, I am now prepared to fill orders for the seed of the above plant at the following prices:  $\frac{1}{2}$  ounce, \$1; 1 oz., \$2; 2 oz., \$3; 4 oz., \$5; and 1 lb., \$8. One ounce contains from 1,000 to 1,800 seeds. On account of extreme drought my stock of seed is limited and persons ordering will be served in rotation. The seed should be sown in early spring and general directions for cultivation will be given on each package.

This plant is not an obnoxious weed, but is as easily eradicated as clover. Having carefully watched its habits of growth and its honey-producing qualities for the past six years I believe those who commence its cultivation in a liberal way will be better pleased than by commencing with a small quantity of seed. It has been grown by prominent bee-keepers all the way from Vermont to Nebraska and Ontario. We refer to the report of the committee appointed by the North American Bee-Keepers' Society held at Detroit in 1885. The committee reported at the Indianapolis, Ind., convention held Oct. 12-14, and their report will be found in all bee-papers publishing the report of that convention.

Write all orders plainly and give your post-office address in full.

H. CHAPMAN,

42 Atf VERSAILLES, Cattaraugus Co., N. Y.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

## Honey For Sale.

We have a large quantity of the best white EXTRACTED HONEY, in 200-lb. Kegs, for sale, which we will deliver on board the cars at 8 cents per pound. Orders solicited.

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## Vandervort Comb Fdn. Mills,

Send for Samples & Reduced Price-List.  
Atf J. VANDERVORT, Laceyville, Pa.

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WILL be sent one year and a copy of the 3rd Edition of the Bee-Keepers' Handy-Book, on receipt of \$1.50. The book contains 300 pages and 100 fine illustrations.

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41 Atf WENHAM, MASS.

## Vandervort Foundation Mill.

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A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

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It contains 220 profusely illustrated pages is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition. Bound in cloth, \$1.00, postpaid.

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Bathing—Best way,  
Lungs & Lung Diseases,  
How to Avoid them,  
Clothing—what to Wear,  
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Contagious Diseases,  
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Black Eyes, Bells, Burns, Chilblains, Cold Feet,  
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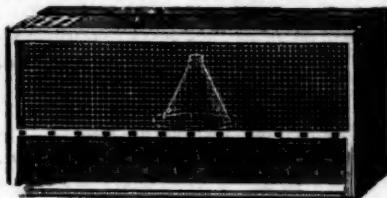
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Conqueror smoker (wide shield)	3	"	1.75
Large smoker (wide shield)	2 1/4	"	1.50
Extra smoker (wide shield)	2	"	1.25
Plain smoker	2	"	1.00
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Bingham & Hetherington Honey Knife, 3 inch			1.15

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15 Atf **ABRONIA, MICH.**

Alley's Drone and Queen Trap.



Price, by Express, 50 cts.; by mail, 65 cts.; 12 in the flat, and one nailed (13 in all), \$3.50; 50, in the flat, \$12.00. Address,

**THOS. G. NEWMAN & SON,**  
923 & 925 West Madison St., CHICAGO, ILL.

**MANUFACTORY**  
FOR HIVES, SECTIONS, &c.

I AM now prepared to supply dealers and others with

Hives, Sections, Shipping-Crates, Supers, etc.,

of all kinds. I make a specialty of LANGSTROTH AND MODEST HIVES. Correspondence with supply dealers solicited. My Sections are all made from Poplar. Address,

**GEORGE TAYLOR,**  
11 Atf DUNDEE, Kane Co., ILLS.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

## GLASS PAILS FOR HONEY.



THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equalled by any other style of packing. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiculturist.

Prices are as follows:

To hold 1 pound of honey, per dozen, ....	\$1.60
" 2 pounds "	2.00
" 3 " "	2.50

**THOMAS G. NEWMAN & SON,**  
923 & 925 West Madison St., CHICAGO, ILL.

## The NEW Heddon Hive.

We have made arrangements with the inventor by which we shall make and sell the Heddon Reversible Hive, both at wholesale and retail; nailed and also in the flat.



The engraving gives a good idea of the hive. The brood-chamber is in two sections; also the surplus arrangement, which may be interchanged or inverted at will. The cover, bottom-board, and top and bottom of each section, has one-half of a regular bee-space, so that the surplus case with the sections, may be placed between the two brood-chambers, or the latter may be transposed or inverted—in fact, all parts of this hive are perfectly interchangeable. The brood-frames will ALL be bored for wires.

A SAMPLE HIVE includes the bottom-board and stand, a slatted honey-board, and cover; two 6-inch brood-chambers, each containing 8 frames; two surplus arrangements, each containing 28 one-paced sections, one with wide frames and separators, and the other without separators. This latter chamber can be interchanged with the other stories, but cannot be reversed. It is NAILED AND PAINTED, and ready for immediate use. Price, \$4.00, complete.

It is absolutely essential to order one nailed hive as a pattern for putting those in the flat together correctly.

HIVES READY TO NAIL.—In filling orders for these hives, in the flat, we make 6 different combinations, so that our customers may make a selection from the sample nailed hive, without waiting for us to quote prices, and the different kinds will be known by the following numbers:

No. 1 consists of the stand, bottom-board, and stand—a slatted honey-board, and cover; two 6-inch brood-chambers, each containing 8 frames; and two surplus arrangements, each containing 28 one-paced sections, one with wide frames and separators, and the other without separators. Price, \$1.55 each.

No. 2 is the same as No. 1, with the addition of one surplus story containing 28 sections without separators—interchangeable, but not reversible. Price, \$2.00 each.

No. 3 is the same as No. 2, with two surplus stories as therein described. Price, \$2.50 each.

No. 4 is the same as No. 1, with the addition of one surplus story containing 28 sections in wide frames with separators, which can be reversed, inverted, and interchanged, the same as the brood-chambers. Price, \$2.30 each.

No. 5 is the same as No. 4, with two surplus arrangements as therein described. Price, \$3.00.

No. 6 contains all the parts as described in the sample nailed hive. Price, \$3.75 each.

Those desiring the hives without the stand, honey-board or sections, may make the following deductions from the above prices: Stand, 14 cents; honey-board, 8 cents; and 28 or 56 sections, as the case may be, at 1/4 cent each, respectively.

We will also make the following deductions on quantities ordered all at one time: For 10 or more hives, 5 per cent discount; for 25 or more hives 7 1/2 per cent; for 50 or more, 10 per cent.

**THOMAS G. NEWMAN & SON,**  
923 & 925 West Madison St., CHICAGO, ILL.

## FLAT-BOTTOM COMB FOUNDATION.

high side-walls, 4 to 16 square feet to the pound. Circular and samples free.  
**J. VAN DEUSEN & SONS,**  
Sole Manufacturers,  
Sprout Brook, Mont. Co., N. Y.

## RIBBON BADGES.

We have some ELEGANT RIBBON BADGES, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

**THOS. G. NEWMAN & SON,**  
923 & 925 West Madison Street, Chicago, Ill.